

Abstract

The system is a self-oxidation internal heating steam reforming system for conducting self-oxidation of a raw material gas under the presence of oxygen and conducting steam reforming to generate a hydrogen-rich reformed gas. The system includes a steam generator 2 including a combustion section 2a for combusting an air-fuel mixture obtained by mixing a combustion air with a fuel, thereby heating water using a combustion gas generated in the combustion section 2a to generate hydrogen; a first sucking-mixer 4 for sucking the raw material gas into a steam stream coming from the steam generator 2 to obtain a raw material-steam mixture; and a reformer 1 for oxidizing the raw material gas in the raw material-steam mixture by an oxygen-containing gas supplied from outside, thereby conducting steam reforming of the raw material gas using the reaction heat of the oxidation to generate a hydrogen-rich reformed gas.